Superconducting bismuth-strontium-calcium-copper oxide compositions

Description of Technology: This invention relates to novel bismuth-strontium-calcium-copper oxide compositions which are superconducting and to a process for making them.

Patent Listing:

1. **US Patent No. 6,855,670**, Issued February 15, 2005, "Superconducting bismuth-strontium-calcium-copper oxide compositions"

http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6855670

Market Potential: This invention provides novel superconducting compositions having the nominal formula Bi.sub.a Sr.sub.b Ca.sub.c Cu.sub.3 O.sub.x wherein a is from about 1 to about 2, b is from about 3/8 to about 4, c is from about 3/4 to about 2 and x=(1.5a+b+c+y) where y is fromabout 2 to about 5, with the proviso that b+c is from about 3/2 to about 5, said compositions having superconducting transition temperatures of about 70 K or higher. Preferably, a is from about 3/2 to about 2, b is from about 3/2 to about 4, c is from about 1 to about 3/2 and b+c is about 3-5. The superconducting transition temperature of the preferred composition will be from at least 77 K (liquid nitrogen) up to about 115 K.

Benefits:

Applications:

- Novel bismuth-strontium-calcium-copper oxide compositions

Contact: Ken Anderson
Director, Entrepreneurial & Small Business Support, Delaware Economic Development Office (DEDO)
Carvel State Building, 820 French Street, Wilmington, DE, 19801
Phone: (302) 577-8496, Fax: (302) 577-8499, Email: Kenneth.R.Anderson@state.de.us